

## BIOGEOGRAPHIC HABITAT ASSESSMENTS

### Needs and opportunities identified by Gulf States in Habitat Identification White Paper:

- ◆ “Many of the Gulf coast states feel as if they are managing their submerged aquatic resources using very sparse data and information. Although technologies for mapping underwater habitats are becoming more common, at this point in time, detailed maps of marine habitat types, locations, and uses are still lacking, making management difficult.”
- ◆ “Recent meetings have produced agreement that high resolution bathymetry (LIDAR from 1-120 ft) would be the best first step in habitat mapping as well as modeling water movement along the Gulf shelf.”

**Federal Response:** The Federal Workgroup proposes three actions to aid in habitat identification: mapping southern Florida shallow-water coral ecosystems; acquiring airborne topographic and bathymetric LIDAR data for the Florida Gulf coast; and further incorporating the Gulf States into the Coastal Change Analysis Program (C-CAP).

**Florida Mapping Project:** Working with numerous local, state, and Federal partners, NOAA will map the shallow-water ( $\approx$  0-40 m) coral ecosystems of southern Florida using a suite of technologies and map development procedures. The coral ecosystems of southern Florida are extensive and represent as much as 84 percent of potential shallow-water coral ecosystems in the tropical and subtropical U.S. (Rohmann et al., accepted for publication in *Coral Reefs*). The first step in this effort is the development of a South Florida Shallow-water Coral Ecosystem Mapping Implementation Plan (MIP), due for completion in July 2005. This MIP will present a framework for the development of shallow-water benthic habitat and bathymetric maps of critical areas in southern Florida. It also will discuss the need to develop moderate-depth (~40-200 m; 22-109 fm) bathymetric maps for all of Florida. The plan will be developed with extensive input from universities, state regulatory and management agencies, Federal agencies, and non-governmental organizations involved in the conservation and management of Florida’s coral ecosystems.

**LIDAR Topographic/Bathymetric Data Acquisition and Processing:** Airborne topographic and bathymetric (topo/bathy) LIDAR data will be collected for the Pensacola, Florida area. The data acquisition will take place during the spring of 2005 in coordination with the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX) at the Stennis Space Center in Mississippi. In addition, airborne gravimetric data will be collected for the entire Gulf of Mexico region to support improved coastal geodetic information and vertical datum transformations. These high resolution datasets will be merged with existing best available elevation data from the region to create seamless models of topography and bathymetry. More specifically, this dataset will fulfill the need for updated coastal bathymetry and topography, which can support storm surge forecasts, ecosystem protection and change analysis, post-hurricane damage assessment, an updated national shoreline, and models to predict sea level rise.

**NOAA's Coastal Change Analysis Program (C-CAP):** The Coastal Change Analysis Program (C-CAP) is dedicated to the development, distribution, and application of land cover and change data for the nation's coastal zone. C-CAP land cover and land cover change

products are designed to assist coastal resource managers in their decision-making processes. These national data sets can be used to assess urban growth, determine changes to natural resources, and develop trend analyses. C-CAP Baseline Products include:

- ◆ Land cover data for two dates, approximately 5 years apart
- ◆ A product illustrating the difference between the two dates

An immediate objective for C-CAP is to expeditiously complete a national baseline of land cover and change data, from which additional dates of imagery may be used to track coastal trends over time. This is being accomplished through partnerships with private industry and more recently, the U.S. Geological Survey's (USGS) National Land Cover Dataset (NLCD) efforts. NOAA and USGS share initial land cover processing procedures, with final agency-specific processing conducted to yield each agency's respective products.

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**Other partners:** NOAA, USEPA, USACE, DOD

*This Federal Response Proposal represents an initial project idea from the 13 agencies represented on the Federal Workgroup, in response to the Gulf State Alliance white papers; it is meant to stimulate discussion, among the Gulf State Alliance and the Federal Workgroup, as they work toward the development of a draft Gulf Plan of Action. Implementation of this project idea is subject to further evaluation and the availability of funding.*